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The Likelihood of Sino-Soviet Hostilities:
A Progress Report on a Quantitative Project

NSA review completed

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Progress Report No. 8
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DIRECTORATE OF INTELLIGENCE
OFFICE OF POLITICAL RESEARCH

Progress Report No. 8   17 April 1975

THE LIKELIHOOD OF SINO-SOVIET HOSTILITIES

This project consists of two quantitative approaches to Sino-Soviet relations. A team of analysts, drawn from various components of the CIA and concerned with different aspects of Chinese and Soviet affairs, examines on a continuing basis evidence on the possibility of one or another level of Sino-Soviet hostilities. The analysts' latest numerical assessments of the likelihood of such hostilities, calculated according to the Bayesian formula of probabilities, are presented in the bar graph on page 2. Below this, a line graph shows the movement of the group's assessments since the start of the exercise. The second part of this project is an experimental "fever chart" of Sino-Soviet tensions, based upon subjective evaluations by the participants. The project will continue until June 1975, or until the occurrence of some form of hostilities (as described in hypotheses A through E, in the first chart). Progress reports will be published periodically by the Office of Political Research.
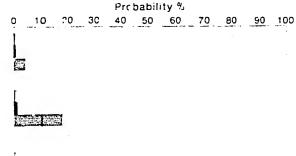
PRINCIPAL TRENDS:

During the past six weeks, the unusually high levels of mutual public re-crimination ☐ during February have receded to what might be considered normal, and the uncertainty among our participants over the causes of that heightened activity has given way generally to an assessment of a more normal level of tension. Events in China, ☐ have significantly lowered the probability of any Chinese-initiated hostilities.

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NOTE—Comments on these reports will be welcomed by ☐ of the Office of Political Research, who is coordinating this project.

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A Bayesian Analysis of the Likelihood of Sino-Soviet Hostilities
Before 1 November 1975
Current Status of the Assessment -- as of 11 April

Probability %

0   10   20   30   40   50   60   70   80   90   100

A   The Soviets will undertake a nuclear strike against Chinese strategic or nuclear targets.

B   The Soviets will launch a large-scale conventional attack against China.

C   The Soviets will launch a localized cross-border attack, with limited objectives, on a scale larger than the 1969 incidents.

D   The Chinese will launch a localized cross-border attack, with limited objectives, on a scale larger than the 1969 incidents.

E   One or more minority groups on either side of the border will revolt, following instigation by the opposite side.

F   Neither side will undertake any of the above types of major hostilities.

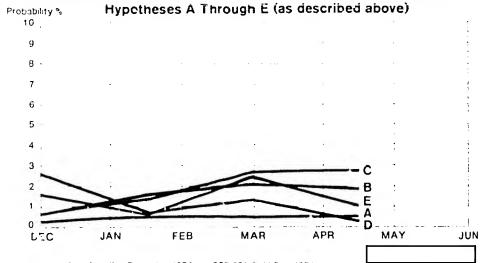☐ Lowest estimate by any of the participants   ■ Average of all estimates   ▦ Highest estimate by any of the participants

A Time Chart Showing the Movement of the Group's Averages for Hypotheses A Through E (as described above)

Probability %

10
9
8
7
6
5
4
3 — C
2 — B
  — E
1 — A
0 — D

DEC   JAN   FEB   MAR   APR   MAY   JUN

NOTE: For the assessments from June thru December 1974 see OPR 501-5, 11 Dec. 1974

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ANALYTIC TECHNIQUES USED IN THIS PROJECT:

The graphs on page 2 show the range and average of analysts' estimates of the likelihood of hostilities; the Bayesian method of calculation is used. This method, as applied here, systematizes a series of appraisals of incoming intelligence made independently by individual analysts. Every participant weighs each new piece of relevant data in terms of the hypotheses shown, which, for the purpose of this exercise, are considered to be mutually exclusive. Simple mathematical calculations, applying the new evidence to the analysts' previous estimates, then yield updated estimates, which serve as the basis for the chart.

The chart on page 6 is an ongoing measurement of the level of Sino-Soviet tensions. It is not a Bayesian analysis: no specific hypotheses are posed and no mathematical calculations are made on the basis of prior estimates. Instead, at the start and at periodic intervals, each of the participants selects a position on the scale of 0 to 100 to represent his best judgment of the current general state of tensions between Moscow and Peking. (The points 10 and 70 have been designated as reference points, as explained on the chart.) Small shifts from the analysts' initial positions may not prove to be meaningful, but abrupt or sustained movement in the lines will be significant.

The measurement of the degree of general tension should be considered as complementary to—but independent of—the estimates of the likelihood of hostilities. Taken together, the two approaches ensure continuing examination of the probabilities of conflict and of the overall state of relations between the USSR and China.

The items of new evidence considered each period are identified by the participants themselves, consolidated by OPR, and then resubmitted to all the analysts for their evaluations—both in terms of the Bayes hypotheses and as factors bearing on the general state of tension.

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Individual Assessments Of Sino-Soviet Tensions

Level of Tension

70 is defined as
the level of tension
in August 1969

10 is defined as
the level of tension
through 1958

DEC   JAN   FEB   MAR   APR   MAY   JUN

The points on this chart were chosen by each participant on an intuitive basis
using the rough guidelines shown on the chart

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● Average

NOTE For the assessments from June thru December 1974 see OPR 501-5, 11 Dec. 1974

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